

DISTRICT COMMON EXAMINATION BOARD
QUARTERLY EXAMINATIONS - 2015-16

GENERAL SCIENCE - Paper - I

(Physical Sciences)

(English Version)

PART - A

Class : X]

(Max. Marks : 35)

[Time : 2 Hrs.

SECTION - I (Marks : 10)

Note : 1. Answer any FIVE questions. Choosing at least Two from each of the following Groups A and B.

2. Each question carries TWO Marks.

Group - A

1. Why do we get on the surface of a cold soft drink bottle kept in open air?
2. How do you appreciate the role of spherical mirrors in daily life?
3. Why do stars appear twinkling?
4. Refractive index of glass relative to water is $\frac{9}{8}$. What is the refractive index of water relative to glass?

Group - B

5. Write the balanced chemical equations for the following reactions.
 - i) $\text{Zn} + \text{AgNO}_3 \longrightarrow \text{Zn}(\text{NO}_3)_2 + \text{Ag}$
 - ii) $\text{H}_2 + \text{Cl}_2 \longrightarrow \text{HCl}$
6. State some reactions of oxidation that you observe in your daily life?
7. Why does tooth decay start when the pH of mouth is lower than 5.5?
8. What is plaster of paris? Give its important uses?

SECTION - II (Marks : 4)

Note : 1. Answer any FOUR questions out of the following in one or two sentences each.

2. Each question carries 1 Mark.

9. Why Tungsten is used as a filament in the bulb?
10. Define critical angle?
11. Write a Snell's law.

[Turn Over

12. What are antioxidants?
13. Formulae of Bleaching powder.
14. Define galvanizing?

SECTION - III (Marks : 16)

- Note :**
1. Answer any **FOUR** questions, choosing **Two** from each of the following **Groups A and B.**
 2. Each question carries **4 Marks.**

Group - A

15. Explain the process of "melting" and "latent heat of fusion".
16. Find the distance of the image when an object is placed on the principle axis at a distance of 10cm in front of a concave mirror whose radius of curvature is 8cm.
17. Draw and explain the process of formation of image with a pin hole camera.
18. Collect information on working of optical fibres. Prepare a report about various uses of optical fibres in our daily life.

Group - B

19. Name the reactions taking place in the presence of sunlight.
20. What information do we get from the equation $2\text{Cu} + \text{O}_2 \longrightarrow 2\text{CuO}$?
21. Compounds such as alcohols and glucose contain hydrogen but not categorized as acids. Describe an activity to prove it.
22. Name of the four chemicals that are obtained from common salt and write their molecular formulae.

SECTION - IV (Marks : 5)

- Note :**
1. Answer any **ONE** of the following questions.
 2. Question carries **5 Marks.**

23. Draw the diagram showing electrolysis of water and labelled it.
24. Draw the diagram that explains the formation of an image by a plane mirror.



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Marks :

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GENERAL SCIENCE - Paper - I

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PART - B

Class : X]**(Max. Marks : 15)****[Time : ½ Hr.**

I. Choose the correct answer from the following four choices and write the answer in the brackets given below. 20 x ½ = 10

1. Specific heat $S = \dots\dots\dots$ ()
 A) $Q / \Delta t$ B) $Q\Delta t$ C) $Q / m\Delta t$ D) $m\Delta t / Q$
2. Which of the following is a cooling process ()
 A) Evaporation B) Boiling
 C) Condensation D) All the above
3. Rancidity is a reaction ()
 A) Reduction B) Oxidation
 C) Redox D) Double displacement
4. Magnification 'm' = ()
 A) $-v/4$ B) $4/v$ C) h_o/h_i D) h_i/h_o
5. Which one of the following types of medicines is used for treating indigestion ()
 A) Antibiotic B) Analgesic C) Antacid D) Antiseptic
6. Which of the following is a mineral acid ()
 A) oxalic acid B) citric acid C) acetic acid D) phosphoric acid
7. The angle of deviation produced by the glass slab is ()
 A) 0° B) 20° C) 90° D) 60°
8. A person is standing on the bank of river. A dish inside water will see the person to be ()
 A) taller B) shorter
 C) original height D) none of these
9. If the pH of a solution is 13. This means that it is : ()
 A) strongly acidic B) strongly basic
 C) weakly acidic D) weakly basic
10. $Fe_2O_3 + 2Al \rightarrow Al_2O_3 + 2Fe$ ()
 The above reaction is an example of
 A) combination reaction B) decomposition reaction
 C) displacement reaction D) double displacement reaction.

[Turn Over

11. Which one of the following materials cannot be used to make a lens?
A) water B) glass C) plastic D) clay ()
12. The value of the focal length of the lens is equal to the value of the image distance when the rays are
A) passing through the optic centre B) passing to the principal axis
C) passing through the focus D) in all above cases. ()
13. When a pencil kept in a glass tumbler filled with water seen from the side of the glass. It seems to bend due to
A) reflection B) refraction C) dispersion D) Scattering ()
14. mirrors are used in solar cookers
A) convex B) concave C) plane D) spherical ()
15. Focal length of plane mirror is
A) zero B) infinity C) negative D) positive. ()
16. The chemical formula of ferric oxide is :
A) Fe_2O B) Fe_2O_3 C) FeO D) FeO_2 ()
17. The decomposition of vegetable into compast is an example reaction
A) oxidation B) redox C) reduction D) rancidity ()
18. The symbol of precipitation reactions.
A) \uparrow B) \downarrow C) \rightarrow D) \rightleftharpoons ()
19. Which of the following has pH = 0
A) pure water B) 1M CH_3COOH solution in water
C) 1M HCl solution in water D) 1M NaOH solution in water ()
20. Colour of methyl orange in alkali conditions
A) orange B) yellow C) red D) blue ()

II. Fill in the blanks with suitable answers.

5 x 1/2 = 2 1/2

21. $0^\circ C =$ _____ K
22. Light selects the least time path to travel between two points. This principle was stated by _____
23. Mirrors used by the dentisis are _____
24. Speed of light in vacuum is _____
25. Lens formula is given by _____

III. Match the following.

5 x 1/2 = 2 1/2

- | Group - A | | Group - B |
|-----------------------------------|----------|------------------------------------|
| 26. measuring H^+ concentration | () | A) $CaSO_4 \cdot 2H_2O$ |
| 27. Gypsum | () | B) $NaHCO_3$ |
| 28. Baking soda | () | C) H_3O^+ |
| 29. CH_3COOH | () | D) P^{H} |
| 30. $H^+ + H_2O$ | () | E) weak acid |
| | | F) $CaSO_4 \cdot \frac{1}{2} H_2O$ |